United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report May 1, 2010

2005 Lupine Bloom in Northern Idaho

Good precipitation finally returned to Idaho in April and with it the hope of May flowers. Multiple thunderstorms brought hail and significant downpours to valleys while snow continued to pile up in the mountains. Bear Mountain SNOTEL, in the Panhandle, received 19 inches of snow on April 28th. All this precipitation resulted in above average monthly precipitation statewide. The greatest totals were 130-140% of average in the basins of the Upper Snake, Southside Snake, and Panhandle. Snowmelt has begun at almost all SNOTEL sites, but relatively cool temperatures are providing a slow defrost to this point, which is ideal considering peak seasonal snowpacks were only 55-85% of normal in mid-April.

Basin Outlook Reports
and Federal - State – Private Cooperative Snow Surveys

For more water supply and resource management information contact:

Your local Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
9173 West Barnes Drive, Suite C
Boise, Idaho 83709-1574

Internet Web Address:
http://www.id.nrcs.usda.gov/snow/

Phone: (208) 378-5740

To join a free email subscription list contact us by email at: IDBOISE-NRCS-SNOW@one.usda.gov

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

**********Idaho Water Supply Outlook Report Readers**********

Please update your free subscription

Did you know the *Idaho Water Supply Outlook Report* is available on the internet usually by the fourth business day of the month? As a hardcopy reader you generally do not receive the bulletin in the mail until several business days later due to the time it takes for printing and mailing.

We now have an email address subscription list to notify readers when the report is online. An email is sent to readers each month giving immediate notification with a hot link to the publication's web location. We have received a lot of positive feedback from online readers since we started this a few years ago. Additionally email list subscribers will be notified of other products that are only available online; these include the June Water Supply Outlook Report and the Fall Summary.

Now the choice is yours. By choosing to go paperless, you will not only receive the information faster, but you will help conserve natural resources and snow survey resources. Thank you in advance for your feedback. However, we do understand if you wish to continue receiving a hardcopy publication and do not plan to discontinue printing the reports at this time.

Please return this form to:

1. **Get added to the email subscription list.**
2. **Update or suspend your hardcopy subscription**

Notify us of your preference by phone, email or by returning this form in the mail.
Please contact: Adam Birken at (208)685-6989 or adam.birken@id.usda.gov

You do not have to return this form if you want to keep your subscription the same for next year and there are no changes to your address.

For email subscriptions:

[ ] Please add me to the monthly email notification, my email is: _____

[ ] Please delete me from the monthly email notification.

For hardcopy subscriptions (check all that apply):

[ ] Please remove me from the hardcopy mailing list.

[ ] Please update or add my address, I would like a hardcopy subscription. This label shows your current address, please make corrections below.

G12345678

NATIONAL AGRICULTURAL LIBRARY
CURRENT SERIAL RECORDS / ROOM 002
10301 BALTIMORE AVENUE
BELTSVILLE MD 20705-2351

[ ] Please change the basin that I receive in my hardcopy version to the basin I've checked below. **If you check <u>more than one basin</u> you'll automatically receive the report with <u>all</u> basins.**

- [ ] General Outlook Report with Surface Water Supply Index
- [ ] #1 - Panhandle Region
- [ ] #2 - Clearwater River Basin
- [ ] #3 - Salmon River Basin
- [ ] #4 - Weiser, Payette, Boise River Basins
- [ ] #5 - Wood and Lost River Basins
- [ ] #6 - Upper Snake River Basin
- [ ] #7 - Southside Snake River Basins
- [ ] #8 - Bear River Basin

In order to maintain current mailing information, control the cost of this publication and ensure maximum use of the information, we are required to examine our circulation annually. This notice is required by the congressional joint committee for the annual revision of free mailing lists.

IMPORTANT NOTICE
REVISION OF MAILING LIST

IDAHO WATER SUPPLY OUTLOOK REPORT
INSTRUCTIONS TO RECIPIENTS

- Detach this page and complete reverse side of this form.
- Please make any corrections/changes to your address on the mailing label prior to mailing.
- Fold so that the address below is outside and staple or tape.
- Stamp and mail immediately.

Fold Here

Fold Here

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
9173 West Barnes Drive, Suite C
Boise, ID 83709-1574

Postage Required

AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER

USDA Natural Resources Conservation Service
Snow Survey Office
9173 West Barnes Drive, Suite C
Boise, ID 83709-1574

Tape Here

IDAHO WATER SUPPLY OUTLOOK REPORT

MAY 1, 2010

SUMMARY

April brought just what we needed: cool and wet weather and the trend is continuing in early May. April precipitation was 100-160% of average across most of the state. The weather pattern not only added more snow water to the mountain snowpack but the timing of the cool weather was ideal to preserve the snow from melting too early and delaying runoff. Current snowpacks range from 55-70% of average for Idaho's major basins, which include the Kootenai, Pend Oreille, Spokane, Clearwater, Salmon, Payette, Boise, Big Wood, Little Wood, Henrys Fork, Upper Snake and Bear. The exceptions are the Big Lost and Little Lost basins, which are only 40-45% of average and the Raft, Oakley, Salmon Falls, Bruneau and Owyhee basins are at the opposite end of the spectrum at about 85% of average.

Most of Idaho's irrigators should be able to make it through this season, thanks to the reservoir carryover storage. With streams forecast at only 45-70% of average across Idaho, it is a given that reservoirs will be drafted earlier than normal as demands exceed inflows. Some surface agricultural shortages are likely in central and southern Idaho which includes the Big Wood, Big Lost, Little Lost, Oakley and Salmon Falls and for users that rely on natural streamflow levels. Users with access to reservoir storage water will be in better shape. Timely rains over the next two months would improve this year's water supply, which happened in May of 2005 and June of 2009.

SNOWPACK

April brought a mixture of weather and a start-stop melting of the mountain snowpack. The low elevation snow started melting in March and some sites melted out by mid-April during the quick preview of spring. During this warm spell, even the SNOTEL sites in Idaho's highest elevations started melting and caused an early streamflow peak on most streams. The return of the cool and wet weather replenished some of the snow in the mid and higher elevations that had begun melting and allowed streams to recede. The late season surge of moisture did not solve the moisture deficit, which has plagued Idaho's snowpacks all winter long, but it did preserve the mountain snow. Current snow water content levels are in the 55-70% of average range from the Canadian border to the upper Snake River headwaters in Yellowstone National Park. South of the Snake River the snowpack is even better at 85% of average. The lowest snowpacks are 45-55% of average in the Selway, Lochsa, Blackfoot, Big lost and Little Lost basins. A historical May 1 snow index for the mountains that contribute to the flow at the Snake River at Heise stream gage, a critical gage for water rights in Idaho, indicates that the snowpack is similar to 2004. If the cool and wet weather had not occurred in April, snowpacks across the board would have melted out much earlier resulting in rivers peaking too soon.

PRECIPITATION

April precipitation was above average across nearly the whole state for the first time since October 2009. Monthly precipitation ranged from 94% of average in the Big Lost basin to 160% in the Teton and Bruneau basins. Two of the driest regions, the Upper Snake headwaters and the Bear River drainage, each received 140% of average precipitation. This monthly precipitation bumps the water year-to-date precipitation up to near 70-75% of average for the Spokane, Clearwater, Salmon, Payette, Big Wood, Bear and Upper Snake; to near 80% for the Boise, Little Wood, Big Lost and Little Lost, and up to 90% for the Weiser and Southside Snake basins. NOAA's National Weather Service forecast calls for the first two weeks in May to experience below normal temperatures and above normal precipitation. Additional precipitation and cool temperatures this spring will help stretch the limited water supplies even though it may make working the fields difficult.

RESERVOIRS

Reservoir storage remains the bright spot in Idaho's water supply outlook with water managers storing as much water as possible because of the limited amount of snow in the mountains. Of the 28 major storage facilities in Idaho, 22 are reporting average or better storage for April 30 and 11 of them are nearly full. The lowest storage levels remain in southern Idaho and include Bear Lake, Oakley, Salmon Falls and Owyhee reservoirs, which are 60-75% of average. April's cool and wet weather gave water managers a chance to refill reservoirs by delaying irrigation demand, but it does not guarantee refill of all the reservoirs.

Here is a summary from north to south: With limited inflows projected into Dworshak Reservoir, it may not fill this year from the snowmelt alone. In the Boise and Payette systems, releases for salmon augmentation flows started April 30 and will continue for most of May while irrigation demands will start increasing; these systems may not fill without additional help from wet and cool weather in May. However, users that depend on the Boise and Payette systems should have adequate supplies even without full reservoirs. Magic Reservoir is 70% full and will not fill; shortages are expected and water supplies will be similar to those in 2007. Little Wood Reservoir is just about full and should provide adequate supplies for its users. Mackay Reservoir is nearly full, but demands will soon exceed inflows as streams will return to baseflow levels early with Mackay Reservoir inflow only predicted at 57% of average; shortages are expected and supplies may be similar to 2008. In the Little Lost basin, shortages typically occur when runoff volumes are below average; the forecast is for 60% of average so users should expect shortages. In the upper Snake, Palisades Reservoir is 99% full while Jackson Lake is 77% full. Demand, spring precipitation and timing of runoff may limit all reservoirs from filling as the reservoirs are managed jointly to optimize water use and delivery. Users with natural flow water rights will feel the pinch of being water short this year rather than those with reservoir storage water. The Surface Water Supply Index, which combines Palisades and Jackson storage with the May-September streamflow volume, shows 2007 as the most recent year with similar water supplies. In the southern corners of the state, Bear Lake and Owyhee Reservoir are both 60% of average and are storing enough water to meet this year's irrigation supplies, even with the minimal inflows that are predicted. Oakley and Salmon Falls reservoirs are about 70% of average and may be a little short this year. The cool and wet weather is helping to extend their irrigation supply, as well as, other water supplies across southern Idaho. Cool summer temperatures as observed the past two irrigation seasons would also help reduce irrigation demand and extend supplies, as opposed to the hot, dry summer weather that occurred at the beginning of the decade.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

April streamflow volumes as a percent of average varied across the state from near average runoff volumes to only half of average. The highest percentages were in the Big Lost River at Howell at 112% of average, Little Lost River at 102%, NF Payette River at Cascade at 98%, and Teton and MF Salmon River at 95%. Unfortunately in the Big Lost basin, the above average flow was a result of the snow coming off early when the average runoff volumes are still low and there is not much more snow to melt. Lost-Wood Divide SNOTEL site has 9 inches of snow water left to melt and the peak streamflow usually occurs a few days after this site melts out. This means there is still another peak to come, but it will be of short duration. The lowest April streamflow runoff volume as a percent of average was at Bear River below Stewart Dam at 20% of average, while Camas Creek and St. Maries River were 42%. Next lowest April volumes as a percent of average were the Portneuf, Salmon Falls, St. Joe, Moyie, and Blackfoot rivers at 50-55%. April runoff in the headwater tributaries in the Upper Snake basin were 70-80% of average with the Snake River near Heise April volume at 72%. Streamflow forecasts for the May-July period remain low with volumes ranging from 45-70% of average across most of the state.

Note: Forecasts published in this report are NRCS guidance forecasts. NRCS is using SNOTEL data in a timely manner to provide timely streamflow forecast for users. Official jointly coordinated and published forecasts by the USDA Natural Resources Conservation Service and the US Department of Commerce, NOAA, National Weather Service are available at the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html.

RECREATION

April's above average precipitation extended Idaho's ski and winter recreation season; it was only the second time that Brundage Ski Resort was open in May. However, because of the lack of deep snow across Idaho, users will be able to access Idaho's high country earlier this year. Warm temperatures in late March initiated snowmelt resulting in the start of Idaho's runoff season.

Following is a summary of snowmelt peak streamflow information based on conditions as of early May. This summary only includes basins where we have historic snowmelt-streamflow analysis; but should provide guidance to assist water managers and river runners in their decisions. Lower elevation streams in the Owyhee River and Camas Creek near Fairfield have peaked from this year's snowpack. Idaho's other high desert streams including the Bruneau, Salmon Falls, Goose and Trapper, should have enough snow to produce another rise but this depends on rain or hot temperatures in the first few weeks in May to either melt the remaining snow rapidly or just let it dribble out of the snowpack.

Based on individual SNOTEL site analyses, streams in the Payette, Boise, Big Wood and Big Lost basins still have enough snow remaining snow to produce another rise in streamflow. Whether or not the future peak exceeds the previous peaks depends on future weather, but the snow sites used in this analysis indicate that the peakflows are still to come. For example, the MF Salmon River analysis shows the stream usually peaks when Banner Summit's snow is about half melted. This has not happened yet and may be pushed out beyond half melt because of the additional moisture received. Moyie River peaked once and on average peaks when Hawkins Lake SNOTEL site is 20% melted; the site just started melting and gained more snow, which means there is still enough snow to produce another snowmelt peak. The Selway River had one peak from the lower elevation melting snow and typically has another from the remaining higher elevation snow. The Teton River typically peaks when Grand Targhee SNOTEL is about half melted. The site is still accumulating snow, so the peak flow is several weeks away.

When the soil is primed from mid April to mid June, spring rainfall can significantly change or influence peak flows. Heavy rains changed the peak flows in May 2005 during the snowmelt period and in June 2009 at the tail end of the snowmelt season. Intensity of rain and consecutive days with rain can also influence peaks. In a year with low snowpacks, rain generated peaks may sometimes be higher than the snowmelt dominated streamflow peaks. Keep your eye on the sky, whether you're a river runner or water manager. For the most current information see the NRCS's Peak Streamflow Resources page: http://www.id.nrcs.usda.gov/snow/watersupply/peakflow.html. These snowmelt–streamflow relationship graphs are updated several times a week during the snowmelt-runoff season.

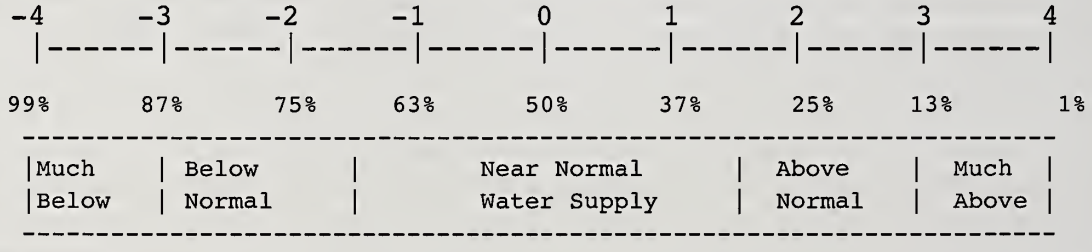
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) MAY 1, 2010

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-2.4	----	NA
CLEARWATER	-3.4	2001	NA
SALMON	-2.4	2007	NA
WEISER	-0.5	2009	NA
PAYETTE	-1.8	2002	NA
BOISE	-1.6	2002	-2.4
BIG WOOD	-1.4	2007	-0.7
LITTLE WOOD	-1.4	2000	-2.1
BIG LOST	-1.0	2008	-0.3
LITTLE LOST	-2.6	2007	0.5
TETON	-1.4	2005	NA
HENRYS FORK	-1.8	2004	-3.4
SNAKE (HEISE)	-1.8	2007	-1.7
OAKLEY	-1.4	2008	-1.1
SALMON FALLS	-1.6	2000	-1.3
BRUNEAU	-0.9	2008	NA
OWYHEE	-3.0	2004	-3.4
BEAR RIVER	-1.6	2007	-3.5

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

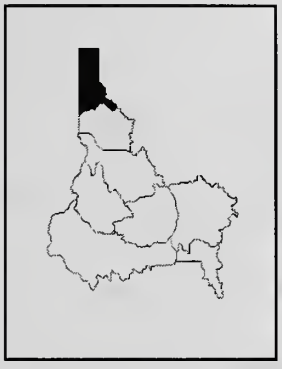


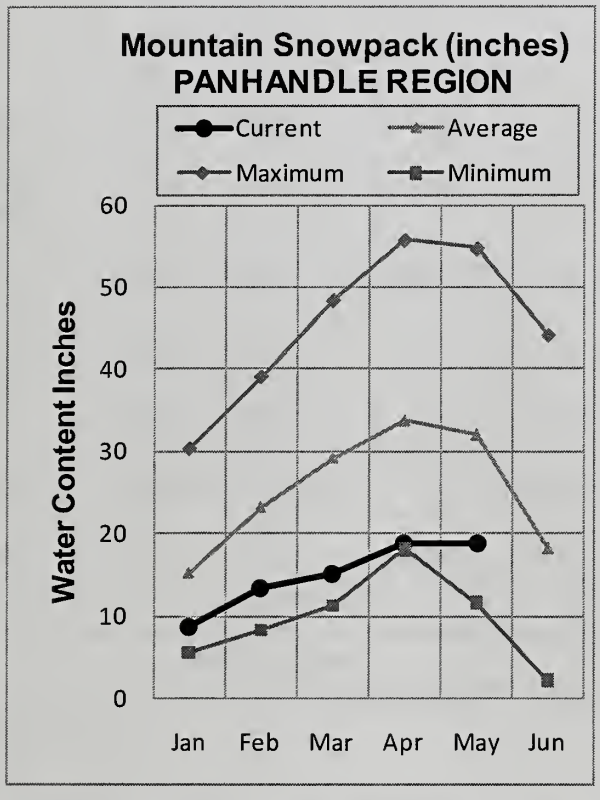
NA = Not Applicable

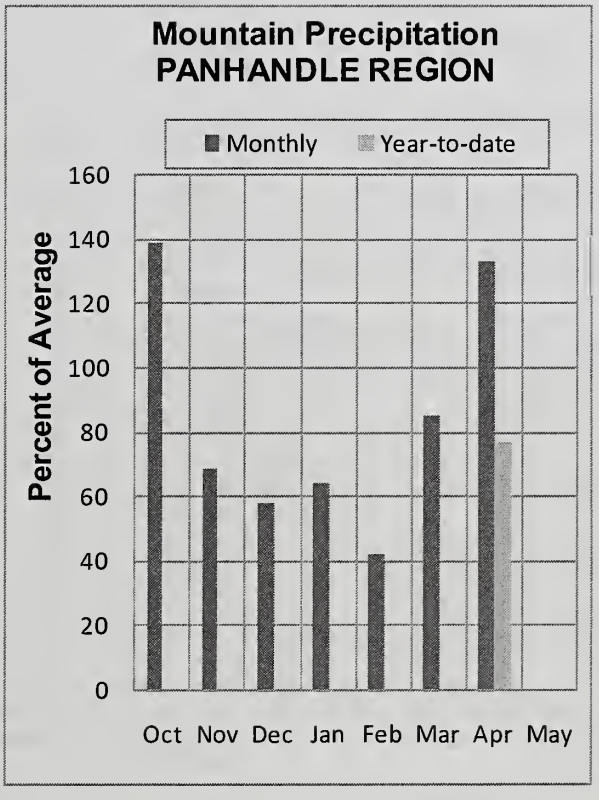
Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION

MAY 1, 2010







WATER SUPPLY OUTLOOK

April brought 133% of average precipitation; the second best month of precipitation with respect to average since the water year began in October. The first of April came in with cool temperatures and abundant precipitation. During the middle of the month, the temperatures warmed up, snowpacks began melting and rivers began to rise. During the last week in April, a strong upper level low pressure system brought a return of cool temperatures and another boost of rain and snow. This replaced some snow in the higher elevations that had melted during the middle of the month. Taking all of this into account, the current snowpack on May 1 is near 60% of average for the Panhandle Region as a whole. The Northern Panhandle snow is better at 72% of average while the Spokane drainage is 54%. The storm cycle did not improve the water supply much, but it briefly stopped snowmelt and dropped the river levels. The seasonal water volume forecasts call for 60-70% of normal for the northern most rivers including the Kootenai, Moyie and Lake Pend Oreille inflow for the May-September period. The outlook for the North Fork Coeur d'Alene, St. Joe and Spokane is for lower water volumes in the 40-50% range. The best forecast is for the Priest River, which is forecast at 77% of average. Lower elevation precipitation is below normal this year and much drier than last year. Winter came and went in Spokane leaving only 14 inches of snowfall; not much compared to the 98 inches that fell last year.

PANHANDLE REGION
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	MAY-JUL	2670	3590	4010	65	4430	5350	6170
	MAY-SEP	3450	4320	4710	65	5100	5970	7250
MOYIE RIVER at Eastport	MAY-JUL	126	167	195	59	225	265	330
	MAY-SEP	132	175	205	59	235	280	345
SMITH CREEK	MAY-JUL	43	62	74	71	86	105	104
	MAY-SEP	43	65	79	71	93	115	111
BOUNDARY CREEK	MAY-JUL	49	62	71	70	80	93	102
	MAY-SEP	53	67	76	70	85	99	108
CLARK FK at Whitehorse Rpds (1,2)	MAY-JUL	4070	5380	5980	62	6580	7890	9590
	MAY-SEP	4390	5930	6630	62	7330	8870	10700
PEND OREILLE Lake Inflow (2)	MAY-JUL	4910	5900	6570	62	7240	8230	10600
	MAY-SEP	5350	6500	7290	62	8080	9230	11800
PRIEST near Priest River (1,2)	MAY-JUL	305	420	475	77	530	645	615
	MAY-SEP	325	455	515	77	575	705	670
NF COEUR D'ALENE RIVER at Enaville	MAY-JUL	31	95	172	39	250	360	440
	MAY-SEP	34	113	192	40	270	385	480
ST. JOE at Calder	MAY-JUL	280	380	450	53	520	620	845
	MAY-SEP	305	410	480	53	550	655	910
SPOKANE near Post Falls (2)	MAY-JUL	300	570	755	45	940	1210	1670
	MAY-SEP	315	610	810	46	1010	1310	1770
SPOKANE at Long Lake (2)	MAY-JUL	405	735	955	50	1180	1500	1910
	MAY-SEP	480	825	1060	50	1300	1640	2130

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2746.0	2561.0	1954.8
FLATHEAD LAKE	1791.0	1039.0	802.9	931.9
NOXON RAPIDS	335.0	299.3	316.4	272.3
PEND OREILLE	1561.3	844.8	938.1	916.7
COEUR D'ALENE	238.5	182.3	245.5	249.7
PRIEST LAKE	119.3	94.9	77.6	102.5

PANHANDLE REGION
Watershed Snowpack Analysis - May 1, 2010

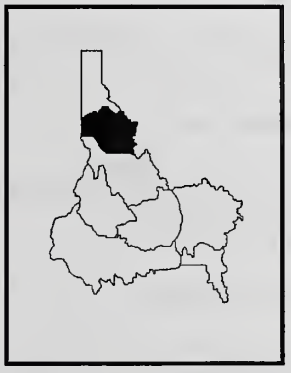
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	24	73	68
Moyie River	8	83	70
Priest River	5	88	83
Pend Oreille River	86	69	68
Rathdrum Creek	1	58	57
Hayden Lake	0	0	0
Coeur d'Alene River	5	62	55
St. Joe River	4	59	55
Spokane River	10	60	55
Palouse River	1	0	0

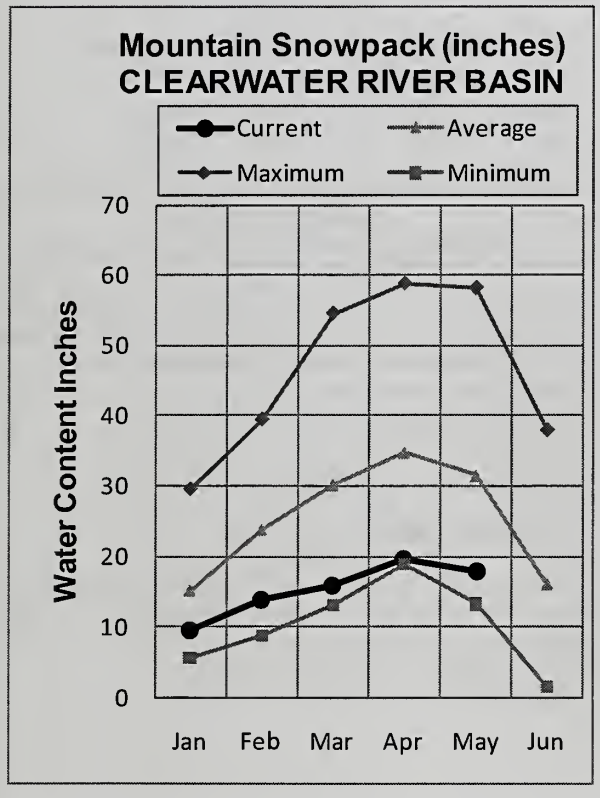
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

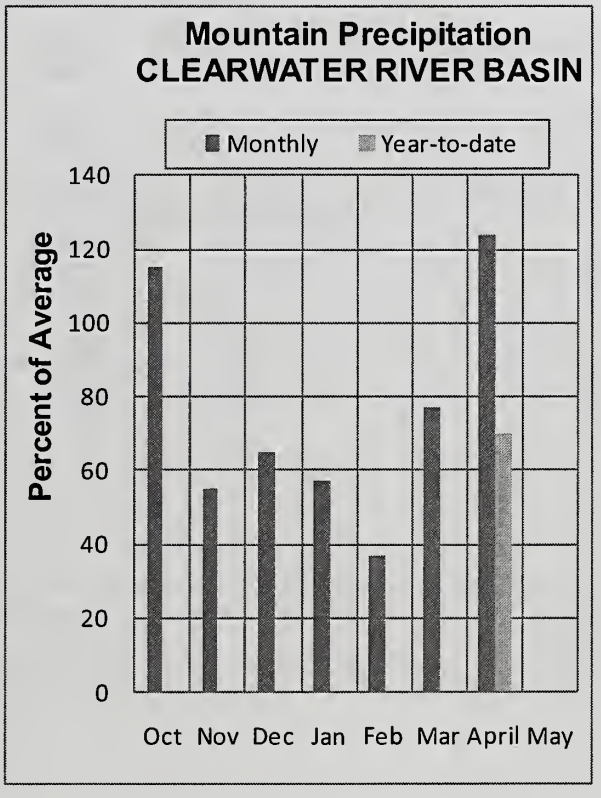
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN

MAY 1, 2010







WATER SUPPLY OUTLOOK

Precipitation for the month of April was 123% of average for the SNOTEL sites in this entire region; 55% or more of that precipitation fell during the last week in April. Over 20 inches of snow fell at Lost Lake SNOTEL site in just two days from April 28-30. This month had the greatest precipitation with respect to average since the water year began in October. On the other side of the coin, cumulative precipitation since the water year started is at 70% of average and nearly the lowest in the state. While the snowpack increased some, the snow is only 57% of average for the Clearwater basin as whole. The good news is the cold weather at the end of April preserved the snowpack, caused the rivers to recede and another peak flow is yet to come. The dry winter resulted in the May-July streamflow forecasts to be in the 50-65% of average. At the end of April, Dworshak Reservoir is about three-quarters full and 102% of average. The Dworshak inflow is forecast at 49% of normal, the lowest forecast in the Clearwater region. The reservoir may not fill due to ongoing releases to meet downstream uses. The highest streamflow forecast is a mere 65% of normal for the Lochsa River, while the Selway River is forecast at 60%. As soon as the air temperatures rebound, snowmelt will start again and river levels will rise.

CLEARWATER RIVER BASIN
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	MAY-JUL	765	910	1010	59	1110	1250	1720
	MAY-SEP	825	990	1100	60	1210	1380	1830
Lochsa R nr Lowell	MAY-JUL	655	745	810	65	875	965	1250
	MAY-SEP	700	800	870	65	940	1040	1330
DWORSHAK Resv. Inflow (1,2)	MAY-JUL	510	825	970	49	1110	1430	1970
	MAY-SEP	595	940	1100	52	1260	1600	2130
CLEARWATER R at Orofino (1)	MAY-JUL	1500	2020	2250	60	2480	3000	3730
	MAY-SEP	1660	2210	2460	62	2710	3260	3990
CLEARWATER R at Spalding (1,2)	MAY-JUL	2100	2900	3260	57	3620	4420	5770
	MAY-SEP	2350	3210	3600	58	3990	4850	6190

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2621.0	2310.3	2560.7

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

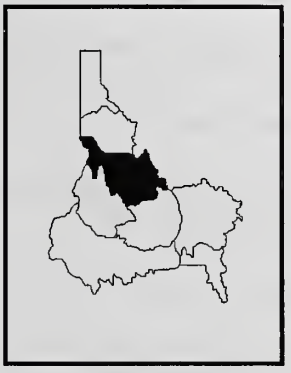
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	61	59
Lochsa River	3	52	49
Selway River	4	43	50
Clearwater Basin Total	16	57	57

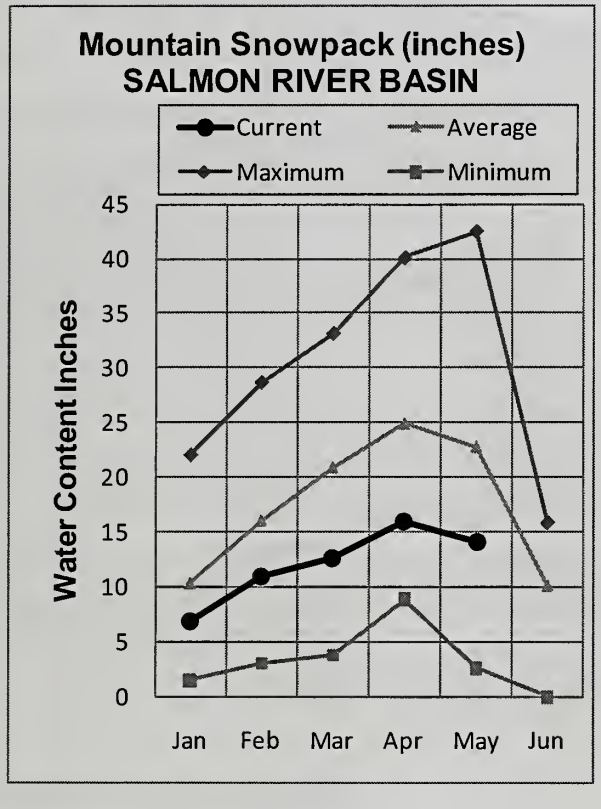
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

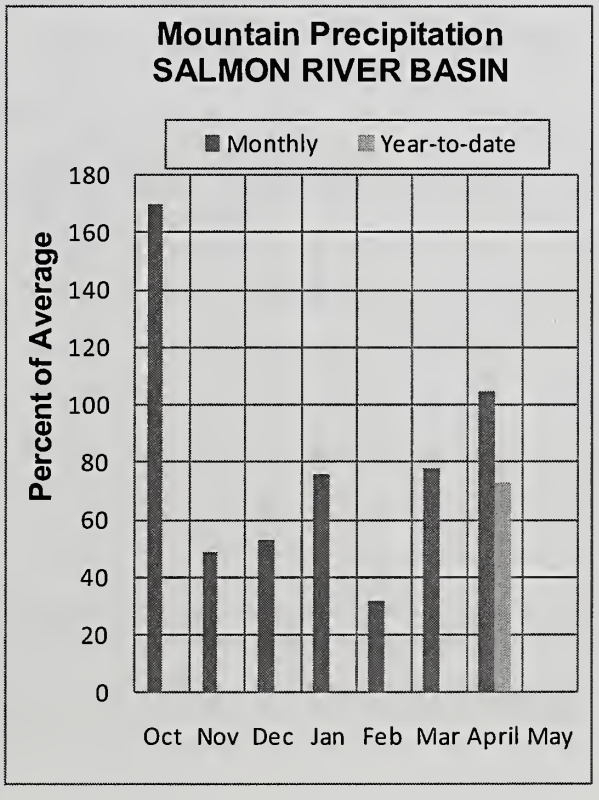
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN

MAY 1, 2010







WATER SUPPLY OUTLOOK

The Salmon River basin SNOTEL sites received 105% of average precipitation in April. The first of April was cool and wet, followed by warm temperatures, melting snow and rising rivers. The last week in April got an increase of moisture from some cold Pacific storms moving across the Pacific Northwest. However, because the seasonal snowpack was already below average and melting, the boost of precipitation did not help the seasonal streamflow forecasts, though it did delay snowmelt and peak streamflows. Overall, the May 1 snowpack is 62% of average. The Little Salmon and Lemhi drainages have a near 70% of average snowpack and the MF Salmon River has the lowest snow at 52% of average. The spring and summer streamflow volumes should respond accordingly and are forecast at 50-55% of average for the Salmon River and its tributaries. Now that the snowpack is in the melting stage, the streams will rise again as soon as warmer temperatures return. The exact timing of the peak streamflow depends on future temperature and precipitation in May. With a quarter of the snow melted at Banner Summit, means the snowmelt streamflow peak is not far way. In low snow years like this one, rain can influence the peak and may provide a higher peak than the typical snow melt peak as was observed in 2005. River runners hoping to float the MF Salmon River early should watch the weather careful and evaluate their skills to determine if you want to be on the river during the rising limb of the hydrograph. There will be a long and enjoyable floating season on Idaho's River of No Return, the Salmon River, because the high water season will be very short this year.

SALMON RIVER BASIN
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	MAY-JUL	183	320	380	50	440	575	760
	MAY-SEP	210	375	450	50	525	690	900
Lemhi R nr Lemhi	MAY-JUL	20	29	35	50	42	53	70
	MAY-SEP	29	39	46	52	54	67	89
MF Salmon at MF Lodge	MAY-JUL	185	275	340	49	405	495	700
	MAY-SEP	215	325	400	51	475	585	785
Salmon at White Bird (1)	MAY-JUL	1690	2510	2880	56	3250	4070	5150
	MAY-SEP	1940	2880	3300	57	3720	4660	5780

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

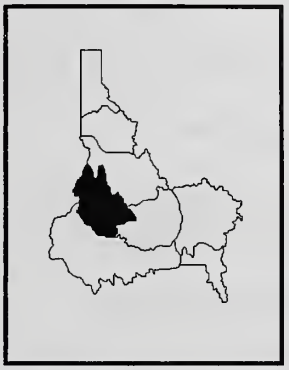
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	7	62	62
Lemhi River	7	59	71
Middle Fork Salmon River	3	57	52
South Fork Salmon River	3	71	57
Little Salmon River	4	75	71
Salmon Basin Total	25	61	62

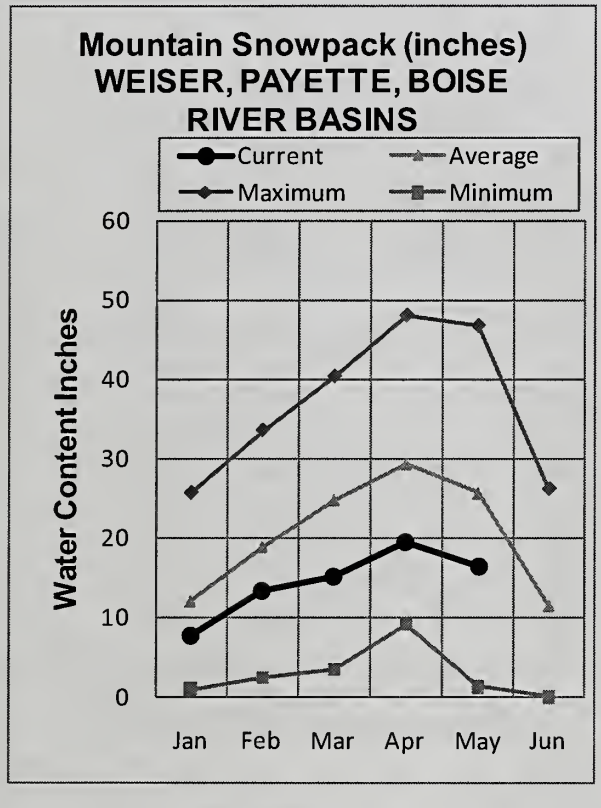
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

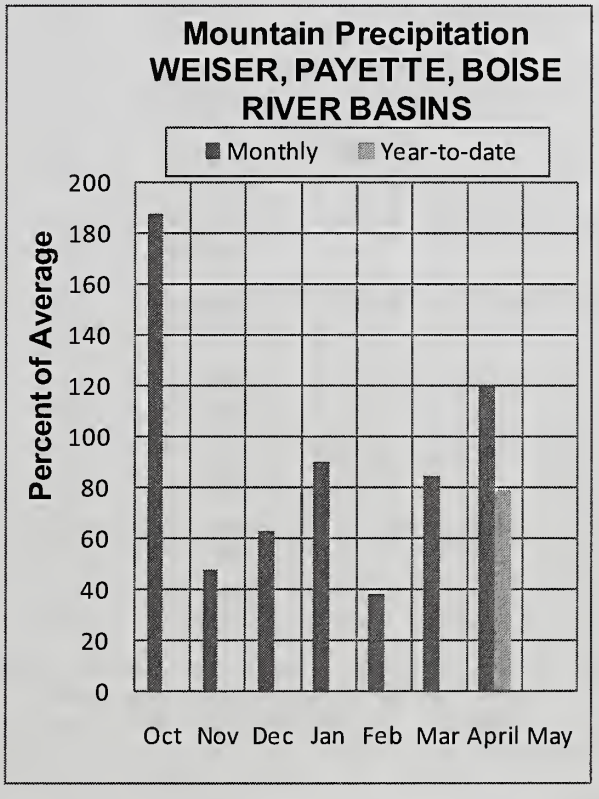
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS

MAY 1, 2010







WATER SUPPLY OUTLOOK

The good precipitation received in Idaho's central mountains at the end of March continued right through April. Monthly precipitation ranged from 113% of average in the Payette basin, to 124% in the Boise and up to 133% in the Weiser basin. Snow continued to fall in the mountains until mid-month when temperatures warmed enough to start melting the snow and get the runoff season started. Streams across the region experienced short lived peaks that were shut down by colder temperatures and more mountain snow. The May 1 snowpack stands at about 67% of average in the Payette and Boise basins, and near normal in the Weiser. The Weiser basin snowpack peaked at 85% of the normal seasonal maximum, but that peak occurred two weeks later than normal helping boost its percent of average for May 1. Streamflow forecasts shift periods from April-July to May-July this month. The forecasts for the Boise River near Boise and Payette River near Horseshoe Bend are about 60% of average, while the Weiser River at Weiser forecast is for 76% of average. Peak flows are still to come on the Boise and Payette rivers; however it will take an extreme warm-up or rain to exceed the snowmelt peak on the Weiser River observed on April 21 at 3,890 cfs. All reservoirs in the Payette and Boise systems continue to store better than average amounts. 1988 is proving to be an excellent comparison year both for overall amount of snow, as well as the timing of melt and streamflow response. Expect reservoir storage and streamflow to meet demands on the Boise and Payette systems. The Boise system may not fill due to salmon flow augmentation releases that started April 30 and will continue through May. The Payette reservoirs are in a similar position in terms of filling. Both systems would benefit from continued above average spring precipitation.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	MAY-JUL	97	161	195	77	235	325	255
	MAY-SEP	115	183	220	77	260	360	285
SF Payette R at Lowman	MAY-JUL	200	225	245	65	265	295	380
	MAY-SEP	240	270	290	67	310	345	435
Deadwood Resv Inflow (1,2)	MAY-JUL	45	62	69	60	76	93	116
	MAY-SEP	48	67	76	61	85	104	125
Lake Fork Payette R nr McCall	MAY-JUL	42	48	52	68	56	63	76
	MAY-SEP	44	50	54	68	58	65	79
NF Payette R at Cascade (1,2)	MAY-JUL	157	230	260	63	290	365	415
	MAY-SEP	153	235	270	62	305	385	435
NF Payette R nr Banks (2)	MAY-JUL	205	270	310	59	350	415	525
	MAY-SEP	210	280	325	59	370	440	550
Payette R nr Horseshoe Bend (1,2)	MAY-JUL	550	720	795	61	870	1040	1310
	MAY-SEP	630	810	895	63	980	1160	1430
Boise R nr Twin Springs (1)	MAY-JUL	215	300	340	67	380	465	510
	MAY-SEP	250	340	385	68	430	520	565
SF BOISE at Anderson Ranch Dam (1,2)	MAY-JUL	122	205	240	56	275	360	430
	MAY-SEP	138	225	265	57	305	390	465
MORES CK nr Arrowrock Dam	MAY-JUL	24	35	44	56	54	70	79
	MAY-SEP	26	38	47	55	57	74	85
Boise R nr Boise (1,2)	MAY-JUL	440	580	645	60	710	850	1080
	MAY-SEP	510	660	730	61	800	950	1190

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	10.9	10.7	10.5
CASCADE	693.2	526.6	523.2	462.5
DEADWOOD	161.9	107.7	98.8	103.4
ANDERSON RANCH	450.2	354.8	325.3	302.3
ARROWROCK	272.2	249.2	246.2	180.9
LUCKY PEAK	293.2	192.2	222.3	207.9
LAKE LOWELL (DEER FLAT)	165.2	144.6	144.3	141.5

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

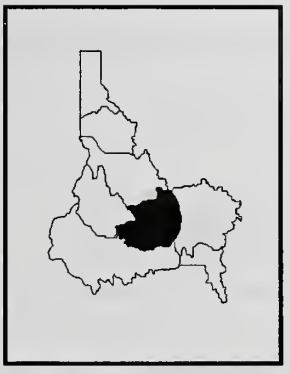
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	255	147
Weiser River	3	122	96
North Fork Payette	8	70	65
South Fork Payette	5	74	64
Payette Basin Total	14	73	66
Middle & North Fork Boise	5	83	66
South Fork Boise River	7	87	67
Mores Creek	4	96	83
Boise Basin Total	13	88	69
Canyon Creek	1	0	120

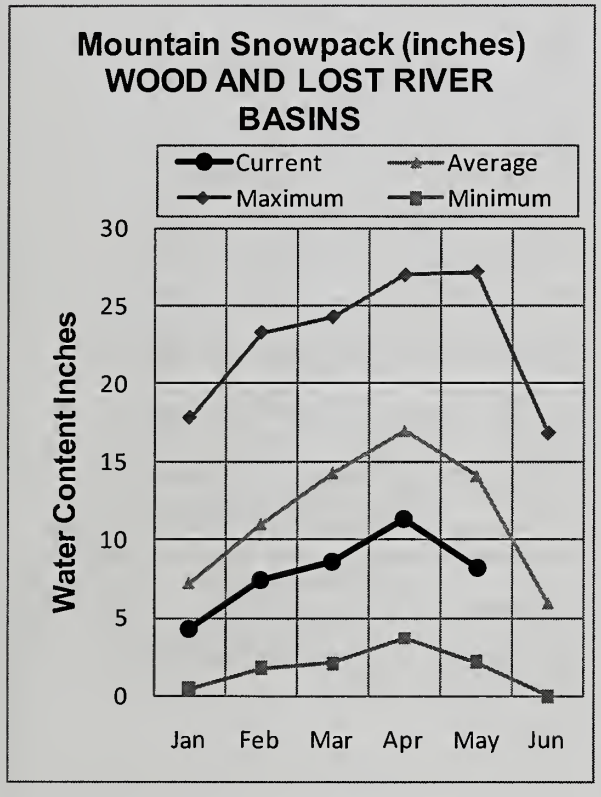
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

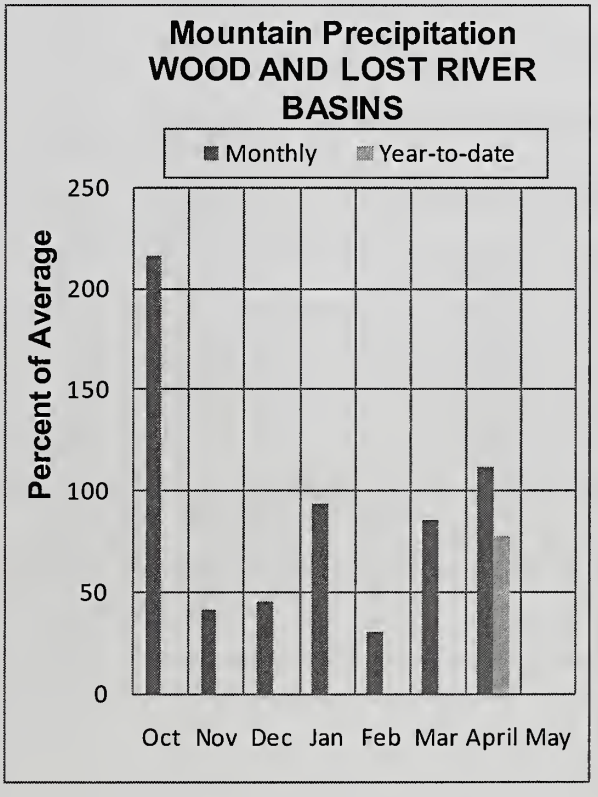
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS

MAY 1, 2010







WATER SUPPLY OUTLOOK

Snowpacks peaked one to two weeks later than normal this year in the Wood and Lost basins. Snowpack peak amounts were only about 70% of the normal maximums, so having a later than normal peak is good news in terms of stretching meager water supplies. April precipitation was 107-122% of average in the Big Wood, Little Wood and Little Lost basins. The Big Lost at 94% of average was the only basin in the state with below average April precipitation. Water year-to-date precipitation since October for the region is up slightly from last month to 78% of average. Mid-April had enough warm weather to start snowmelt and cause streams to rise. Camas Creek has already seen its peak snowmelt driven streamflow, which was driven higher than last year's peak by rainfall on April 21. Peaks are still to come for other streams. Expect the Big Wood River to peak about nine days after Galena Summit's snow is half melted. The streamflow forecast period shifts this month from the April-July to May-July. May-July forecasts are for about 60% of average for the Big Wood River at Hailey, Big Lost River at Howell Ranch, and Little Lost River. The forecast for the Little Wood River near Carey are 47% of average. Mackay and Little Wood reservoirs are just about full and are passing inflows. Magic Reservoir is 70% of capacity and will not fill. A delayed melt will help operators keep the reservoirs full for as long as possible. The Surface Water Supply Index, which combines current reservoir storage with streamflow forecasts, has not changed much since last month and continues to predict that supplies should be adequate in the Little Wood, but less than adequate in the Big Wood, Big Lost and Little Lost basins.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Big Wood R at Hailey (1)	MAY-JUL	61	113	136	60	159	210	225
	MAY-SEP	70	129	156	60	183	240	260
Big Wood R ab Magic Reservoir	MAY-JUL	17.0	52	75	46	98	133	165
	MAY-SEP	21	59	84	47	109	147	179
Camas Ck nr Blaine	MAY-JUL	2.3	8.5	15.0	35	23	39	43
	MAY-SEP	2.6	9.0	15.5	35	24	39	44
BIG WOOD below Magic Dam (2)	MAY-JUL	13.0	56	86	42	116	159	205
	MAY-SEP	18.0	64	95	43	126	172	220
LITTLE WOOD R abv High Five Ck	MAY-JUL	14.6	22	28	48	35	46	58
	MAY-SEP	16.9	25	32	49	39	52	65
LITTLE WOOD near Carey (2)	MAY-JUL	11.7	23	30	48	37	48	62
	MAY-SEP	13.4	25	33	47	41	53	70
BIG LOST at Howell Ranch	MAY-JUL	67	86	100	62	115	139	162
	MAY-SEP	77	99	115	62	133	161	186
BIG LOST blw Mackay Resv	MAY-JUL	46	59	68	53	77	90	129
	MAY-SEP	62	79	90	57	101	118	159
Little Lost R nr Howe	MAY-JUL	10.7	13.7	16.0	59	18.4	22	27
	MAY-SEP	14.1	18.0	21	60	24	29	35

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	134.8	86.9	150.4
LITTLE WOOD	30.0	29.5	28.1	24.3
MACKAY	44.4	43.8	31.5	34.6

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

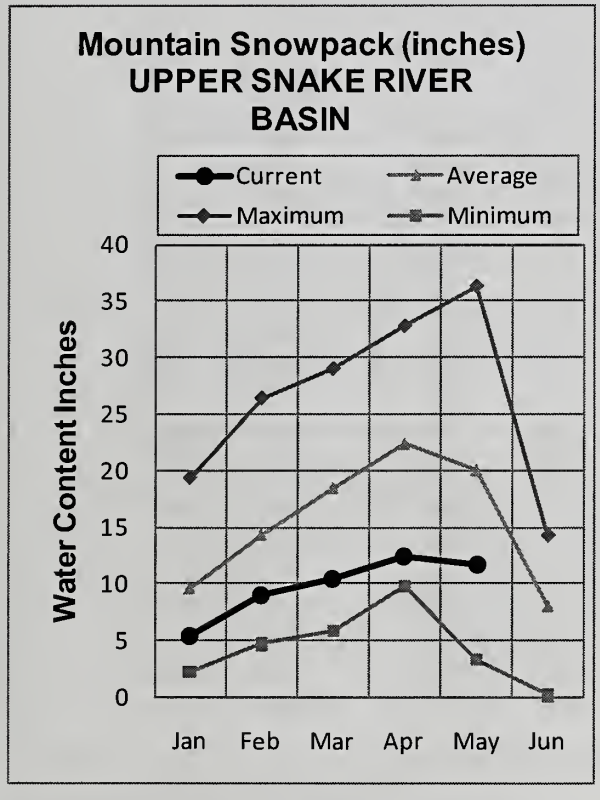
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	7	82	64
Camas Creek	3	0	46
Big Wood Basin Total	10	85	62
Fish Creek	0	0	0
Little Wood River	4	68	54
Big Lost River	4	52	40
Little Lost River	3	46	45
Birch-Medicine Lodge Cree	2	63	73
Camas-Beaver Creeks	2	36	40

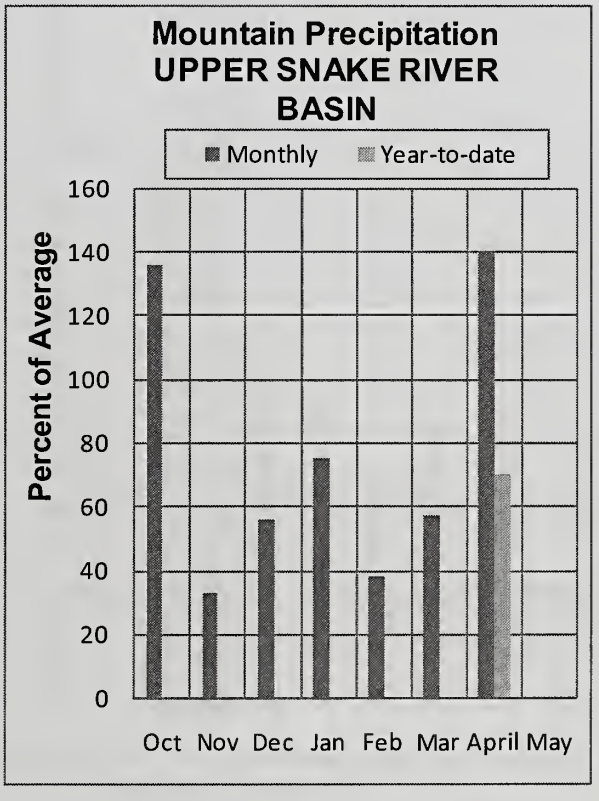
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE BASIN

MAY 1, 2010





WATER SUPPLY OUTLOOK

The Upper Snake benefitted from April's 140% of average monthly precipitation, making it the best month for precipitation so far this water year. This precipitation gave the snowpack a late season boost of about 10 percentage points, helping peak snow water content levels reach 62% of the normal maximum amount. Warm temperatures in mid-April caused snow to begin melting before cold storms at the end of the month brought a return of winter and additional accumulation of snow at most SNOTEL sites. As a result 2010 is melting slower than 2001, which should help stretch water supplies. The reservoir system is 92% of capacity, 126% of average. Combining the late season jump in the snowpack, which improved the Snake River near Heise streamflow forecast to 2,060,000 acre-feet, and the ideal storage, puts surface water supplies at 4,106,000 acre-feet just short of the 4,300,000 acre-feet typically required for adequate surface water supplies. This month the streamflow forecast period shifts from starting in April to starting in May. Forecasts percentages are 5-20 percentage points higher this month than last, due to good precipitation and to a cool April which shifted runoff into the later period. Forecasts for May-July are 54% of average for the Snake River at Heise while others range from 26% for American Falls inflow to 72% for the Teton River. Water supplies have improved since last month but shortages may occur especially for those with natural streamflow water rights.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK nr Ashton (2)	MAY-JUL	210	255	285	63	320	375	450
	MAY-SEP	345	400	445	69	490	560	645
HENRYS FORK near Rexburg (2)	MAY-JUL	700	805	875	66	945	1050	1330
	MAY-SEP	1010	1130	1210	68	1290	1410	1780
Falls R nr Ashton (2)	MAY-JUL	172	205	225	67	250	285	335
	MAY-SEP	215	250	275	68	300	345	405
Teton R nr Driggs	MAY-JUL	77	92	102	71	113	130	143
	MAY-SEP	103	122	136	72	151	173	188
Teton R nr St. Anthony	MAY-JUL	185	215	240	68	265	300	355
	MAY-SEP	230	265	295	68	325	370	435
Snake River At Flagg Ranch	MAY-JUL	220	260	285	63	310	350	455
	MAY-SEP	240	285	315	62	345	390	505
SNAKE nr Moran (1,2)	MAY-JUL	300	400	445	59	490	590	750
	MAY-SEP	340	455	505	60	555	670	840
Pacific Ck At Moran	MAY-JUL	47	73	90	56	107	133	160
	MAY-SEP	54	80	98	59	116	142	167
Buffalo Fork ab Lava nr Moran, WY	MAY-JUL	142	170	189	66	210	235	288
Gros Ventre R at Kelly, WY	MAY-JUL	40	73	96	52	119	152	186
	MAY-JUL	40	73	96	52	119	152	186
SNAKE abv Resv nr Alpine (1,2)	MAY-JUL	780	1020	1130	52	1240	1480	2160
	MAY-SEP	890	1190	1320	52	1450	1750	2530
Greys R Nr Alpine	MAY-JUL	155	182	200	67	220	245	300
	MAY-SEP	191	225	245	69	265	300	355
Salt R Nr Etna	MAY-JUL	85	132	164	59	196	245	280
	MAY-SEP	124	181	220	61	260	315	360
SNAKE nr Irwin (1,2)	MAY-JUL	1210	1480	1610	54	1740	2010	2980
	MAY-SEP	1460	1780	1920	55	2060	2380	3520
SNAKE near Heise (2)	MAY-JUL	1380	1580	1720	54	1860	2060	3170
	MAY-SEP	1670	1900	2060	55	2220	2450	3760
WILLOW CREEK nr Ririe (2)	MAY-JUL	10.3	21	28	47	35	46	60
Blackfoot R ab Res nr Henry	MAY-JUN	9.5	18.3	26	46	35	51	56
Portneuf R at Topaz	MAY-JUL	24	30	34	52	39	46	65
	MAY-SEP	34	41	46	55	52	60	84
Snake River at Neeley (1,2)	MAY-JUL	79	605	900	34	1200	1850	2640
	MAY-SEP	87	425	750	26	1080	1790	2910

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	89.9	90.3	87.4
ISLAND PARK	135.2	132.1	125.1	123.2
GRASSY LAKE	15.2	13.4	13.6	12.7
JACKSON LAKE	847.0	656.4	671.9	471.1
PALISADES	1400.0	1390.0	777.3	862.6
RIRIE	80.5	56.6	64.0	56.2
BLACKFOOT	348.7	230.2	142.4	256.3
AMERICAN FALLS	1672.6	1663.9	1640.1	1493.8

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

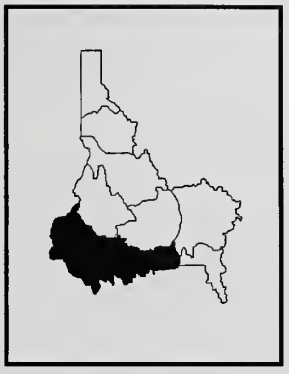
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	7	50	51
Teton River	8	68	67
Henrys Fork above Rexburg	15	58	59
Snake above Jackson Lake	6	48	54
Pacific Creek	2	52	65
Gros Ventre River	2	62	70
Hoback River	5	51	47
Greys River	4	60	70
Salt River	4	69	90
Snake above Palisades	20	57	62
Willow Creek	7	56	77
Blackfoot River	3	51	48
Portneuf River	6	62	81
Snake abv American Falls	37	57	64

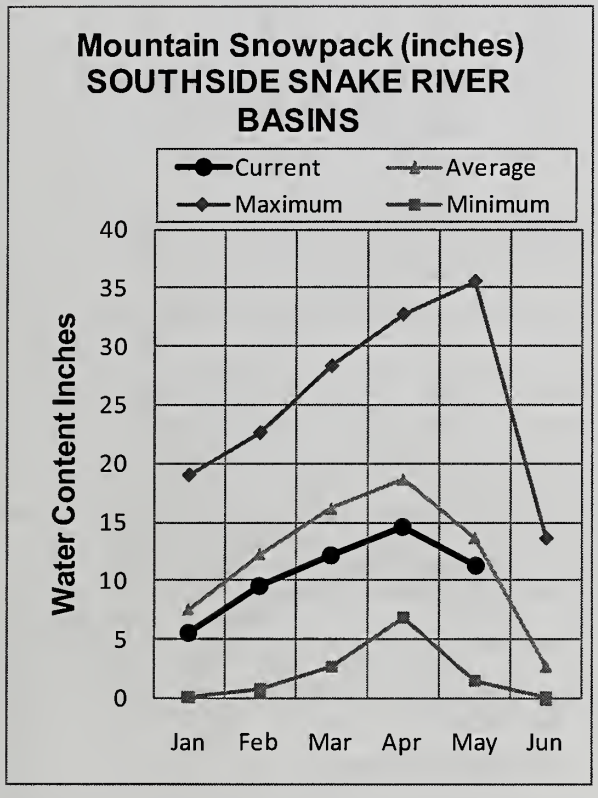
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

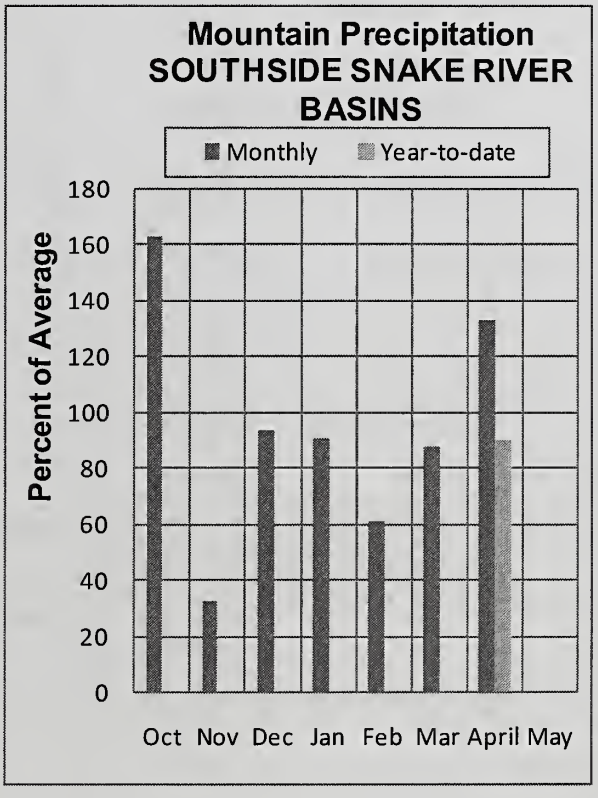
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS

MAY 1, 2010







WATER SUPPLY OUTLOOK

The Southside basins received 120-160% of average April precipitation; some of the best numbers in the state. This makes two consecutive months of good precipitation for Bruneau and Salmon Falls basins. Snowpacks across the region peaked up to two weeks later than average at 85-90% of the normal seasonal maximum in the Bruneau, Oakley and Salmon Falls basins and near average in the Owyhee basin. Warm temperatures in mid-April caused snowmelt to begin and produce increases in streamflows. The Owyhee River has already seen its snowmelt peak. Snowmelt peaks are still to come on the Bruneau River and Salmon Falls Creek. With Bear Creek SNOTEL peaking at only about 15 inches of snow water this season, the river running season will be short on the Bruneau River unless it is supplemented by rain; generally at least 20 inches of snow water is needed for an adequate boating season. Salmon Falls Creek should see another peak soon after temperatures warm up and once Magic Mountain SNOTEL reaches 70% melted, it's currently about 50% melted. The streamflow forecast period shifts this month to the May-July period. May-July streamflow volume forecasts call for near 60% of average inflow to Owyhee Reservoir, Salmon Falls Creek and Oakley Reservoir, while the Bruneau River is expected to see 69% of its usual volume. Combining current reservoir storage with the 50% chance of exceedance forecast puts Oakley irrigation supplies about 4,800 acre-feet short and Salmon Falls supplies 12,000 acre-feet short of their adequate supplies. The size of these shortage deficits have decreased this month. With the current weather pattern, there is hope to stretch these water supplies even further.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Oakley Reservoir Inflow	MAY-JUL	6.7	10.2	13.0	62	16.2	21	21
	MAY-SEP	7.9	11.9	15.0	63	18.5	24	24
OAKLEY RESV STORAGE	MAY	30	33	35	78	37	40	45
	JUNE	20	25	28	70	31	36	40
Salmon Falls Ck nr San Jacinto	MAY-JUL	17.6	27	34	60	42	56	57
	MAY-SEP	21	30	38	61	46	60	62
SALMON FALLS RESV STORAGE	MAY	69	75	80	79	85	91	101
	JUNE	49	61	69	73	77	89	95
	JULY	31	42	50	71	58	69	71
Bruneau R nr Hot Springs	MAY-JUL	62	90	112	69	137	177	162
	MAY-SEP	67	97	120	69	146	188	173
Owyhee R nr Gold Creek (2)	MAY-JUL	0.2	2.3	6.0	50	12.4	28	12.0
	MAY-SEP	0.3	1.8	5.6	52	12.9	32	10.7
Owyhee R nr Rome	MAY-JUL	49	93	130	62	174	250	210
	MAY-SEP	64	111	150	65	195	275	230
Owyhee R blw Owyhee Dam (2)	MAY-JUL	2.0	33	135	60	235	385	225
	MAY-SEP	5.0	50	158	62	265	425	255
Reynolds Ck at Tollgate	MAY-JUL	2.8	3.7	4.4	77	5.1	6.3	5.7

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	30.2	29.3	41.0
SALMON FALLS	182.6	60.0	55.8	87.9
WILDHORSE RESERVOIR	71.5	40.4	41.7	55.8
OWYHEE	715.0	371.2	412.3	613.6
BROWNLEE	1420.0	1355.2	1091.7	1069.2

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - May 1, 2010

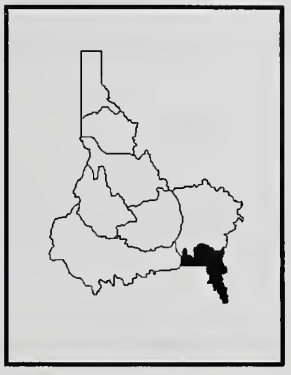
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	84	100
Goose-Trapper Creeks	4	74	81
Salmon Falls Creek	7	72	81
Bruneau River	5	84	90
Reynolds Creek	6	114	101
Owyhee Basin Total	7	131	83

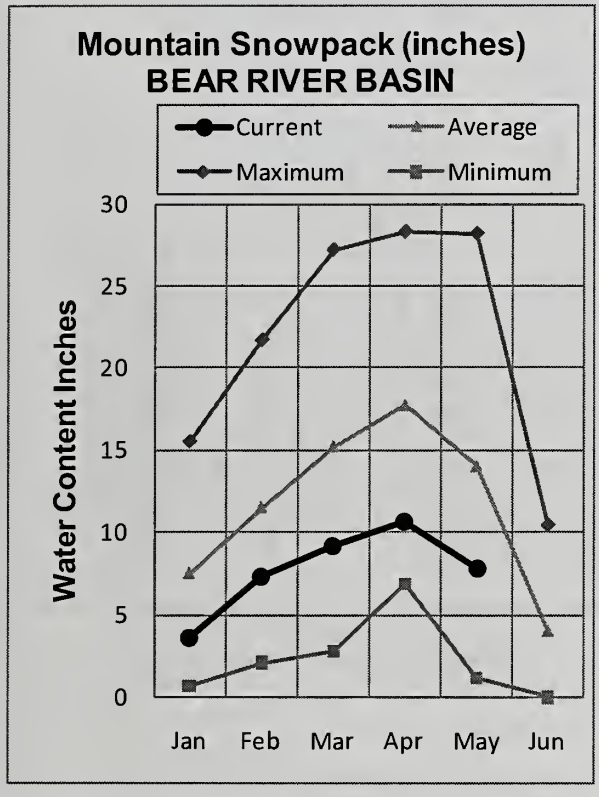
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

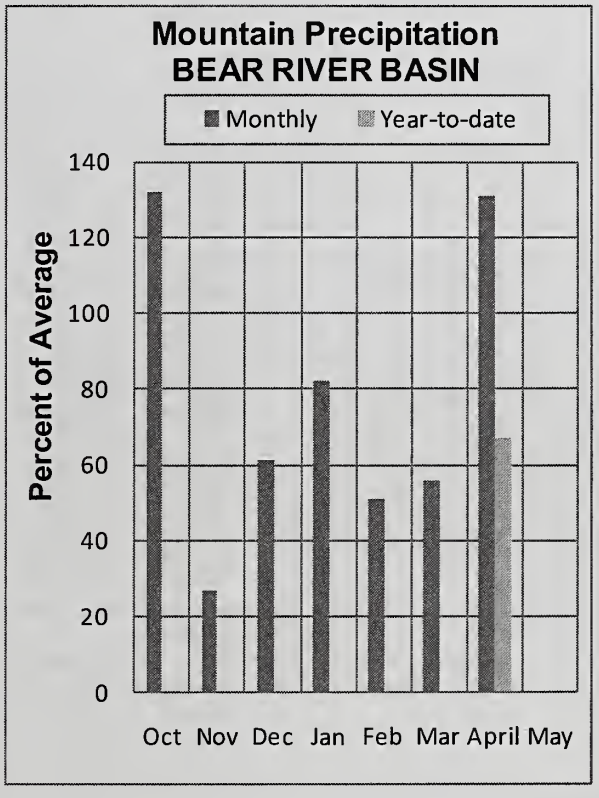
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BEAR RIVER BASIN

MAY 1, 2010







WATER SUPPLY OUTLOOK

The storm cycles that moved through during the first and last week in April helped the snowpack and improved the water supply outlook. Even so, the May 1 snowpack is only 66% of normal. Many months of below average precipitation could not be overcome, despite the 140% of average precipitation for the month of April. Without this reprieve, the Bear River's high country would be nearly melted off and streams would have peaked much earlier than normal. Efficiency of snowmelt to produce runoff depends on how it melts. Rapid warm temperatures will flush the water down the channels, into Bear Lake and deliver water through the diversion canals. Slow snowmelt will result in a much slower and steadier stream response. The May-July streamflow volume forecast for the Bear River below Stewart Dam (Rainbow Canal) is 33% of average and the Smiths Fork forecast is 57%. The highest forecast is near the headwaters, where the snow is the best, at the Bear River near the Utah-Wyoming state line at 80% of normal. Bear Lake is storing 595,700 acre-feet as of April 30. This storage is about 140,000 acre-feet more than last year and should allow irrigators to get through this season. The take home point is that if this summer is hot and dry and normal drafting of the reservoir occurs, then carryover storage will be minimal for next year.

BEAR RIVER BASIN
Streamflow Forecasts - May 1, 2010

Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
		<<===== Drier =====	Future Conditions	===== Wetter =====>>				
		Chance Of Exceeding *						
Bear River nr UT-WY State Line	APR-JUL	66	80	89	79	98	112	113
	MAY-JUL	63	76	84	79	92	105	107
	APR-SEP	75	90	100	80	110	125	125
	MAY-SEP	72	86	95	80	104	118	119
Bear River ab Reservoir nr Woodruff	APR-JUL	57	75	88	65	101	119	136
	MAY-JUL	44	61	73	63	85	102	116
	APR-SEP	59	77	90	63	103	121	142
	MAY-SEP	46	63	75	62	87	104	122
Big Creek nr Randolph	APR-JUL	2.0	2.5	2.8	57	3.1	3.6	4.9
	MAY-JUL	0.8	1.7	2.5	58	3.4	5.1	4.3
Smiths Fork nr Border	APR-JUL	40	51	58	56	65	76	103
	APR-SEP	50	62	71	59	80	92	121
	MAY-JUL	32	43	51	54	59	70	95
	MAY-SEP	42	55	64	57	73	86	112
Bear River at Stewart Dam	APR-JUL	5.0	40	60	26	95	147	234
	APR-SEP	5.0	43	80	31	117	172	262
	MAY-JUL	4.0	22	50	27	78	119	186
	MAY-SEP	6.0	37	70	33	103	152	214
Little Bear at Paradise, UT	APR-JUL	2.1	11.3	17.6	38	24	33	46
	MAY-JUL	0.6	5.1	11.0	34	16.9	26	32
Logan R nr Logan, UT	APR-JUL	47	61	70	56	79	93	126
	MAY-JUL	37	51	60	56	69	83	108
Blacksmith Fk Abv Up&L Dam Nr Hyrum	APR-JUL	2.0	14.8	24	50	32	45	48
	MAY-JUL	1.2	10.1	18.0	45	26	38	40

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	595.7	456.5	971.0
MONTPELIER CREEK	4.0	3.5	3.4	2.5

BEAR RIVER BASIN
Watershed Snowpack Analysis - May 1, 2010

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Smiths & Thomas Forks	4	63	69
Bear River ab WY-ID line	12	64	64
Montpelier Creek	2	74	68
Mink Creek	1	50	45
Cub River	1	53	62
Bear River ab ID-UT line	20	66	66
Malad River	1	0	5

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. **(Revised Nov. 2007).**

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)

Boundary Ck nr Porthill, ID – No Corrections

Moyie R at Eastport, ID – No Corrections

Smith Creek nr Porthill, ID – No Corrections

Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)

Pend Oreille Lake Inflow, ID
+ Pend Oreille R at Newport, WA
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids (Storage Change
+ Pend Oreille Lake (Storage Change)
+ Priest Lake (Storage Change)

Priest R nr Priest R, ID
+ Priest Lake (Storage Change)

NF Coeur d'Alene R at Enaville, ID - No Corrections

St. Joe R at Calder, ID - No Corrections

Spokane R nr Post Falls, ID
+ Coeur d'Alene Lake (Storage Change)

Spokane R at Long Lake, WA
+ Coeur d'Alene Lake (Storage Change)
+ Long Lake, WA (Storage Change)

Clearwater River Basin

Selway R nr Lowell - No Corrections

Lochsa R nr Lowell - No Corrections

Dworshak Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)

Clearwater R at Orofino, ID - No Corrections

Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections

Lemhi R nr Lemhi, ID – No Corrections

MF Salmon R at MF Lodge, ID – No Corrections

Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections

SF Payette R at Lowman, ID - No Corrections

Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)

Lake Fork Payette R nr Mccall, ID – No Corrections

NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections

SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections

Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck

Camas Ck nr Blaine – No Corrections

Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)

Little Wood R abv High Five Ck, ID – No Corrections

Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)

Big Lost R at Howell Ranch, ID - No Corrections

Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY
+ Jackson Lake (Storage Change)

Pacific Ck at Moran, WY – No Corrections

Buffalo Fork ab Lava Ck nr Moran, WY – No Corrections

Gros Ventre R at Kelly, WY – No Corrections

Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)
Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot Reservoir Inflow, ID
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake River at Neeley, ID
+ Snake River at Neeley (observed)
+ All Corrections made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
(Does not include inflow from Birch Creek)
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee R blw Owyhee Dam, OR
+ Owyhee R blw Owyhee Dam, OR (observed)
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin

Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec. 2005)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead+Inactive+Active
Coeur d'Alene	---	13.50	225.00	---	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	---	1452.00	2016.00	---	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	---	46.70	646.50	---	693.2	Inactive+Active
Deadwood	---	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive+Active
Arrowrock	---	---	272.20	---	272.2	Active
Lucky Peak	---	28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive+Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	---	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	---	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	---	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	---	---	348.73	---	348.7	Active
American Falls	---	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	---	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active+Inactive
Wildhorse	---	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive+Active
Bear River Basin						
Montpelier Creek	0.21	---	3.84	---	4.0	Dead+Active
Bear Lake	5.0 MAF	119.00	1302.00	---	1421.0	Active+Inactive: Includes 119 that can be released

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the 90 percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Forecasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

*90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574

OFFICIAL BUSINESS

Issued by
Dave White, Chief
Natural Resources Conservation Service
Washington, DC

Released by
Jeff Burwell, State Conservationist
Dave Hoover, Assistant State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by
Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Data Collection Officer
Jeff Anderson, Hydrologist
Julie Koeberle, Hydrologist
Adam Birken, Hydrologic Technician
Jeff Graham, Electronics Technician
Chad Gipson, Electronics Technician

Assistance provided by
Jolyne Lea, Forecast Hydrologist
Rashawn Tama, Forecast Hydrologist
NRCS, National Water and Climate Center, Portland, Oregon

Numerous other agencies provide funding and/or
cooperative support for the collection, operation
and maintenance of the Snow Survey Program.
Their cooperation is greatly appreciated.